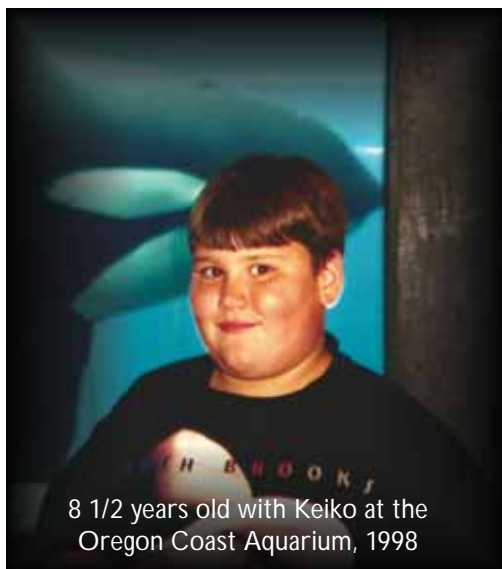


*Improving Life, One Breath at a Time*

# Breathing

 **AMERICAN LUNG ASSOCIATION®**  
of Washington

## State of the Air in Washington 2005



### Tony Menard-Wentz

Tony died of Asthma  
February 7, 2001, age 11

He is survived by his mother  
Cheryl Menard-Wentz  
who is dedicating her life  
to asthma education

For the one in 10 households that has a child with asthma, the air we breathe can be a deadly burden. Asthma is the leading cause of school absenteeism.

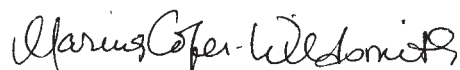
Cheryl Menard-Wentz of Toppenish knows. Her son Tony has been absent since February 7, 2001, when he died during an asthma attack.

Every four days someone with asthma in Washington dies. No one should ever die from asthma.

More than 625,000 people in Washington suffer from this disease. It is the most dangerous chronic disease in our state. Polluted outdoor air can cause or worsen lung-related diseases, even when air quality levels are within federal standards.

While we have made progress in clearing the air we breathe, it still contains toxic pollution from cars, trucks, ships, indoor and outdoor fires, even gasoline-powered yard equipment.

In this Washington State report, you will read about air quality issues for our state, meet people struggling daily with the burden of poor air quality, and learn how you can help ease the burden for their lungs and yours.



**Marina Cofer-Wildsmith, MA**

Chief Executive Officer  
American Lung Association of Washington

# Transportation & tailpipes

We breathe cleaner air now than 20 years ago, but there's more to do. As our population grows, so does the challenge to clean air. We already drive more than 87 million miles each day in this state, causing more than half our air pollution. More people will mean even more vehicles traveling more miles.

Diesel exhaust is an especially serious threat to public health. It is a major source of hazardous air toxics and fine particles, which are inhaled deeply into the lungs where they get trapped in the small airways. Emissions from gasoline vehicles add to toxic and fine particle pollution.

Dozens of health studies show links between fine

particles and a wide range of health problems, including increased asthma attacks and emergency room visits, heart disease, cancer and premature death.

The good news is that communities are making progress to clear the air, transitioning to cleaner diesel and alternative fuels.

Thousands of students are riding cleaner school buses and breathing cleaner air, thanks to the Washington State Clean School Bus Program, funded by the 2003 Legislature. By the end of 2004, more than 2,500 school buses had been retrofitted with emission-reducing equipment. Many are also using ultra-low sulfur diesel fuel, which when combined with the retrofit devices reduces toxics 50 to 90 percent and fine-particles 30 to 90 percent. Several districts also are using biodiesel, a fuel made from agricultural products and used cooking oil.

Other innovative, voluntary partnerships establish Washington as a leader in curbing diesel emissions.

In the Puget Sound region,

transit agencies, cities, counties and businesses are partners in the Diesel Solutions program. They are retrofitting vehicles and using ultra-low sulfur diesel fuel, bringing air quality benefits in advance of federal requirements for cleaner diesel fuels and engines beginning in 2006 and 2007.

Washington State Ferries has switched its fleet to low-sulfur diesel fuel and is testing ultra-low sulfur diesel and biodiesel.

Princess Cruise Lines ships visiting Seattle will begin using electricity for shore power instead of idling diesel engines beginning in the summer of 2005. The Ports of Seattle, Tacoma and Everett are switching shoreside equipment to cleaner fuels or electricity.

Natural gas is replacing gasoline and diesel for ground-service equipment at Sea-Tac Airport and in many taxis and shuttles.

Conoco Phillips and U.S. Oil and Refining are providing ultra-low sulfur diesel for these projects, and five refineries in Washington are gearing up to meet the 2006 federal standards requiring reductions of sulfur content in highway diesel and gasoline.

In Southwest Washington, Burlington Northern Santa Fe Railway and the Southwest Clean Air Agency joined forces to install idling reduction equipment on three Vancouver

See "Moving" on Page 3



## Jack & His Asthma

At 11 years old, Jack Pendleton is able to control his asthma most of the time and plays soccer, tennis and tag at recess. But Jack, of Bainbridge Island, takes more medicine in his young life than most people do in a lifetime. His mother tries not to dwell on the side effects of the medication for his asthma, which is classified as moderate to severe.

"One night, he came to me and breathlessly told me that he felt 'tight'. We tried his rescue inhaler, and it didn't work at all. I was so scared because he could barely speak to me," Carol Pendleton said.

For Jack, riding the school bus every day was a challenge. The

diesel exhaust made him sick, and he told his mother he felt the same tightness on the bus.

Now, thanks to the Washington State Clean School Bus Program, Jack can ride the school bus again. The Bainbridge Island School District is one of many in the state that has retrofitted all of its buses with advanced exhaust-control equipment and is using ultra-low sulfur diesel fuel to dramatically reduce diesel tailpipe emissions. †



*"Moving" continued from Page 2*

switchyard locomotives with an Environmental Protection Agency (EPA) grant, and Clark County's truck fleet uses biodiesel.

The Yakima Regional Clean Air Agency and the Washington State Department of Transportation (DOT) have teamed up on a project funded by an EPA grant to retrofit DOT vehicles and construction equipment.

Public agencies, businesses and individuals who choose gasoline-electric hybrid vehicles for their



fleets or personal use are to be commended. Their choices add up to cleaner air, healthier lungs and clearer views for all of us.

The Department of Ecology and local air agencies can tell you

more about what's happening in your area. See contact information on page 11. Learn more about clean-air choices you can make on page 9. †

# Wood stoves & fireplaces

Smoke from wood stoves and fireplaces can be a source of fine-particle pollution (PM2.5), which is associated with heart and lung diseases as well as cancer. It also contains toxic chemicals, which can cause other serious problems.

Many people in Washington are replacing their old uncertified wood stoves and open fireplaces with cleaner choices like natural gas and propane, certified wood stoves and inserts or pellet stoves. They are making a big difference in their health and well being – and that of their families and neighbors.

To encourage such clean-air choices, air quality agencies in Spokane and Yakima counties and in

Southwest Washington sponsor programs offering financial incentives for people to replace their uncertified wood stoves. Others offer occasional special program or promotions. The agencies also sponsor ads and distribute materials to educate people about the harmful effects of chimney smoke and ways to prevent it.

Even the most sophisticated wood-burning device can produce thick smoke and choke out neighbors if not operated effectively. So air agencies also work to educate people about proper burning techniques, often in partnership with the Northwest Hearth, Patio & Barbecue Association. Proper burning provides the most heat with the least smoke. Visit the [www.burningclean.com](http://www.burningclean.com) to learn more.

If wood smoke pollution gets serious enough during winter months, when stagnant weather traps pollution close to the ground, air agencies may call temporary burn bans until the air clears. During a burn ban, uncertified wood stoves and open fireplaces can't be used

and all outdoor burning is prohibited.

A coalition of public and private organizations is promoting a change to the state's burn ban law to better protect public health. The change would use the national standard for PM2.5 as the basis for calling a burn ban, replacing the outdated standard for PM10 or coarse particles.

Most of the agencies also partner with their natural gas and electric utilities to promote cleaner heating and energy efficiency, which also helps reduce global warming. That means citizens can reap a dual benefit with cleaner choices – healthier lungs and a healthier planet.

The Department of Ecology and local air agencies can tell you more about what programs and incentives might be available for upgrading an old uncertified stove or open fireplace. See contact information on page 11. Learn more about other clean-air choices you can make on page 9. †





## The Byrnes & Chimney Smoke

John and Michelle Byrnes live in a prison in their own home on Chuckanut Bay, unable at times to enjoy their beachfront property.

"I am sometimes shut in my home, because there is so much smoke I can't go outside," John said. "Even then it seeps inside. I'm not even safe in my own house."

Their neighbor burns driftwood he drags up from the beach in his uncertified wood stove,

blanketing John and Michelle in smoke that hangs in the air like a thick fog.

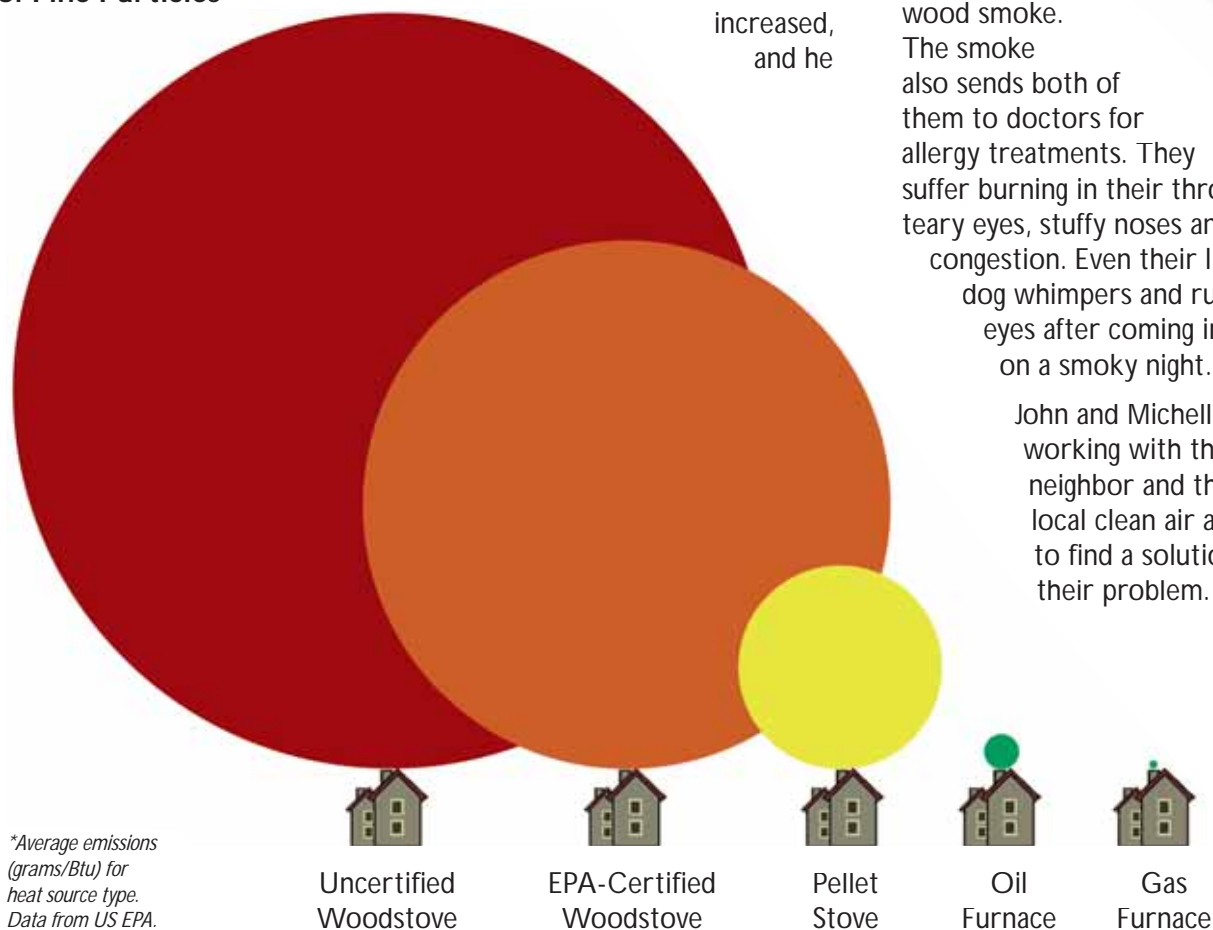
"There is something fundamentally wrong when a person can take away the very air you breathe simply for their own convenience, because they feel like burning something," John said.

The CO2 levels in John's blood have increased, and he

attributes this to his exposure to wood smoke. The smoke also sends both of them to doctors for allergy treatments. They suffer burning in their throat, teary eyes, stuffy noses and congestion. Even their little dog whimpers and rubs its eyes after coming inside on a smoky night.

John and Michelle are working with their neighbor and their local clean air agency to find a solution to their problem.

### Relative Emissions of Fine Particles\*



\*Average emissions (grams/Btu) for heat source type. Data from US EPA.

# Outdoor fires & windblown dust

Smoke and windblown dust pose threats to public health, particularly in Eastern Washington where arid conditions and agricultural burning compound the problem.

Particles from blowing dust can lodge in the lungs, just like smoke particles, causing harmful health effects.

While we can't control nature's winds, air agencies have been working with farmers and others to control windblown dust. They also work with individuals, local communities and contractors to control dust from dry

summer roads, winter sanding, construction, road building and other activities, offering technical assistance on dust

prevention and suppression techniques.

Through curbs on agricultural and other outdoor burning, significant progress has been made in reducing fine-particle levels and improving visibility. But as the accompanying story suggests, more needs to be done.

Air agencies and farmers in Eastern Washington are working together to minimize the impacts of field burning. Air agencies have strict permit requirements, and many farmers have taken voluntary steps to reduce burning. The Department of Ecology (Ecology) operates a public notice system, so people can be forewarned when burning will be allowed. Idaho partnered with Washington in 2004 for these televised alerts, since both states allow agricultural burning but smoke knows no boundaries.

Orchardists also use burning as a management practice, but Ecology

regulates the practice carefully, taking into account location and purpose for each permit application.

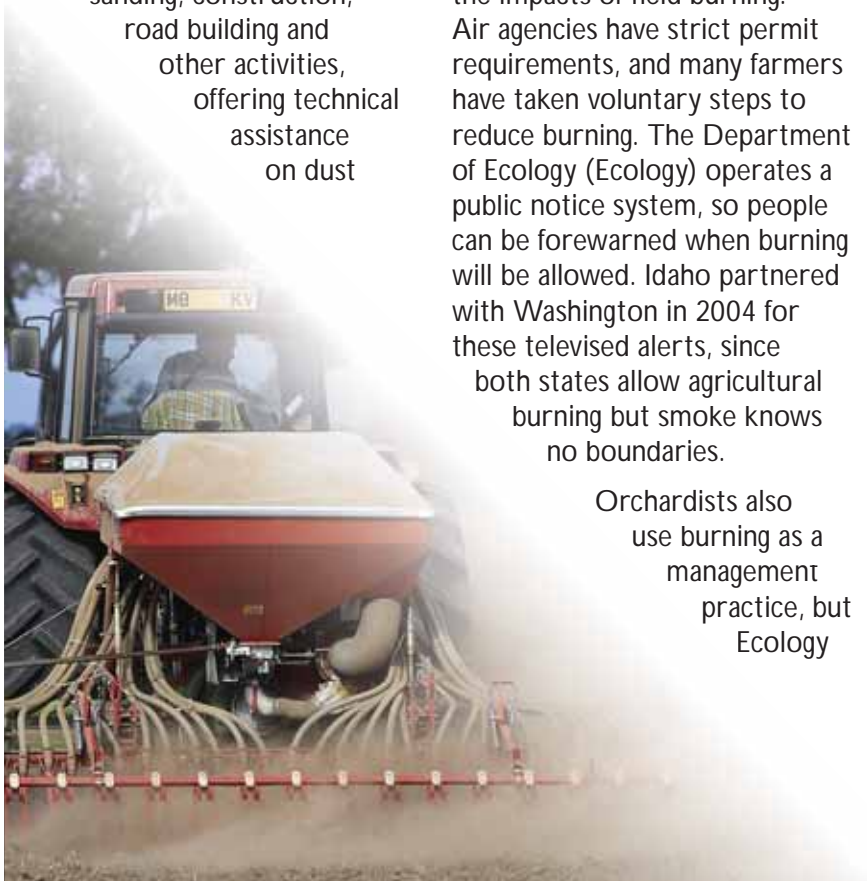
Applicants must research alternatives to burning and are allowed to burn only on days with adequate ventilation.

Information on smoke-management

programs can be found at [www.clearsky.wsu.edu](http://www.clearsky.wsu.edu).

Garbage burning is illegal everywhere in Washington, and outdoor burning of yard debris is permanently banned in most incorporated towns and cities as well as inside urban growth areas. Where outdoor burning is still allowed, air agencies work creatively with citizens and communities to promote voluntary cleaner disposal alternatives to reduce smoke impacts on neighbors.

In Bridgeport, Douglas County, the mayor, the county's solid waste department and Ecology pooled resources for a day-long burn barrel round-up in May 2004. In exchange for their burn barrels, which are no longer legal anywhere in the state, participants received free compost bins. The round-up netted 51 burn barrels, which were crushed and hauled away for recycling. The



enthusiastic mayor even drove around with a trailer to pick up burn barrels from those who were unable to transport them.

The Spokane County Air Pollution Control Authority works with partners to promote chipping, composting, mulching and hauling debris to transfer stations and drop boxes as clean alternatives to burning.

In Stevens County, a fire district and the county public works department sponsored community chipping days in two fast-growing residential areas, resulting in more than 300 tons of yard debris being chipped

instead of burned.

The Department of Ecology and local air agencies can tell you more about what alternatives are available in your area. See contact information on page 11. Learn more about clean-air choices you can make on page 9. ✚



## Lori & Outdoor Fires

Thinking they were escaping urban problems such as air pollution and crime, Lori Powers and her family moved from Lake Forest Park near Seattle to the wide open spaces around Yakima.

Lori, a 49-year-old teacher, wife and mother of two, loves her four-acre pastoral home, but unfortunately, her ability to enjoy life is limited. Living near foothills where orchardists

seasonally burn acres of land poses challenges to her health.

After living asthma free for decades, she began having chest pains and shortness of breath after moving to the Yakima area. Lung specialists told her that exposure to outdoor burning triggered a renewal of her asthma attacks.

"I used to walk at least a mile a day, and I can't do that anymore," Lori said. "I have to stay indoors more and keep my

windows closed.

I don't have the energy to go out past 9 o'clock in the evening because my lungs are tired."

Lori and her family leave the area when orchardists start to burn their crops in the summer. Lori is trying to modify her life to deal with the burning and avoid having to make another move. ✚

## Pen & Paper or Keyboard & Mouse

Please share your personal lung-health story with us



Send us an e-mail at [alaw@alaw.org](mailto:alaw@alaw.org) or write to us at 2625 Third Avenue Seattle, WA 98121.

Please be sure to include your name, mailing address and phone number.





# Networks, tips & real people

Free email notification networks let people know when air quality deteriorates so they can curb certain activities and take extra precautions to protect themselves.

Several air agencies and the American Lung Association of Washington offer email notices using EPA's Air Quality Index. The air agencies classify air quality as green (good), yellow (moderate), orange (unhealthy for sensitive groups) or red (unhealthy).

The American Lung Association of Washington notifies subscribers to its Breathe Easy Network whenever air agencies issue a two-day yellow forecast. You can sign up at [www.alaw.org](http://www.alaw.org).

Air agencies decide when to notify their subscribers, considering such things as

current monitored air quality conditions, weather forecasts and past experience. To see if your local air agency offers an e-mail notification service, visit [www.airwatchnorthwest.org](http://www.airwatchnorthwest.org) and click on your county to be connected with your local agency. †



## The Ericksons & Burning Clean



After using an uncertified woodstove for 25 years, Dan and Barbara Erickson of Bellingham decided to be part of the solution instead of the problem and bought a certified wood stove.

"The volume of the smoke we put out is the biggest difference," Barbara said.

"At night, we used to see the smoke swirl up around the street lights, but we don't see that

anymore," says Barbara, who encourages others to change out, too. "You don't realize how much you're polluting."

Two notebooks full of research paid off. In addition to finding the best wood stove for their needs, Barbara researched tips for starting the stove and found she did not have to use newspaper. The Ericksons now use environmentally-friendly Grizzly fire starters.

The Ericksons give their ashes to a friend who puts them in his garden to keep the slugs away. Dan takes pride in the wood he chops and stores, stacking it according to age of seasoning to make sure it's good and dry before he uses it. †



## Corbin & Breathing Easy

Corbin Reeves, now 2-½ years old, had an asthma attack on his first birthday and a terrifying ambulance ride to the hospital. It would be the first of many hospital visits.

Pete, Corbin's father, checks the Breathe Easy Network air quality message every day to help manage his son's asthma.

"On yellow days, we limit how much physical exertion he is doing outside, as opposed to the green days, when we let him do a lot of running around."

Corbin's parents have gone to extreme lengths to shield their son from breathing pollutants inside the home, but they cannot prevent outside factors from

affecting his health and livelihood.

"Sometimes several of the homes around the park near our house vent wood smoke from their chimneys. When this happens, Corbin cannot play at the park or in our yard, and we must keep the windows on that side of the house closed," Pete said.

"My little boy has suffered terribly from asthma. Anything we can do to keep the air

cleaner for him and others is really important." ✚



## Consider & Choose

Taking just one of the following steps can improve the quality of the air we breathe. Little steps count – it all adds up to cleaner air. May is Clean Air Month. Become part of the solution by starting with one of these action steps:

- o Commute by carpool, vanpool or mass transit. Businesses that participate in Commute Trip Reduction (CTR) programs benefit their employees, their communities and their business bottom lines.
- o Convert a wood-burning stove or fireplace to natural gas or propane. Older, uncertified

wood stoves produce significantly more pollution than other forms of heat.

- o Recycle or compost your yard debris instead of burning it. Outdoor burning is illegal in many areas. And never burn garbage – it's illegal throughout Washington state.
- o Buy a fuel-efficient car, such as a gas-electric hybrid car. Check EPA's Green Vehicle Guide at [www.epa.gov/greenvehicles](http://www.epa.gov/greenvehicles) to find the most fuel-efficient vehicle that meets your needs.
- o Sign-up for Flexcar ([www.flexcar.com](http://www.flexcar.com)), the largest car-sharing program in western Washington. You can leave your car at home on work days or donate it to the

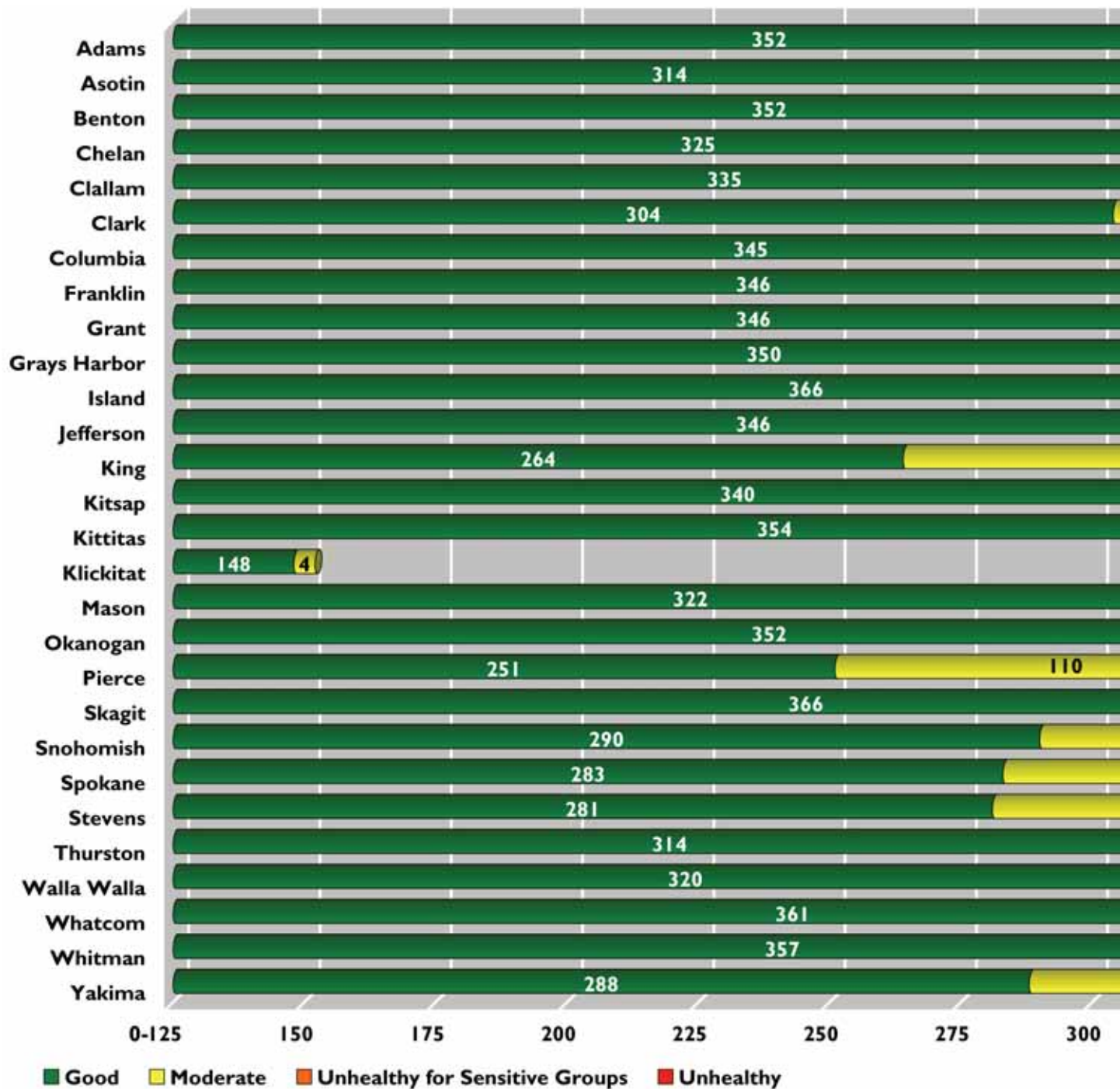
American Lung Association of Washington at [www.donateyourcar.com](http://www.donateyourcar.com)

- o Replace your gasoline-powered yard equipment with electric or manual equipment.
- o Consider human-powered recreation. Bicycling, rowing, skiing, snow shoeing and sailing are cleaner, quieter and give you a better workout than gasoline-powered alternatives.
- o Join the American Lung Association of Washington's Lung Action Network [www.lungaction.org/alaw](http://www.lungaction.org/alaw) and be heard in Olympia on critical issues relating to air quality and lung health. ✚



# 2004 Air quality & observations

## 2004 Air Quality & Counties



## What This Chart Does & Doesn't Tell You

These charts represent some good news for public health. We've made substantial progress over the years in reducing the number of dirty-air days for what EPA calls criteria pollutants, including fine and coarse particles, ozone and carbon monoxide.

However, air toxics pose a significant health risk for all of us, but they are not represented on the Air Quality Index because there are no EPA standards for air toxics.

Toxic air pollutants are known or suspected to cause cancer and other serious health effects, including reproductive and birth defects. Vehicle tailpipes and smoke are major sources of toxic air pollutants. For instance, benzene in gasoline is given off both in fumes at the pump and in tailpipe emissions. Benzene is linked to an increased incidence of leukemia.

Many of our urban areas share a dubious distinction with other urban areas of the country where traffic is heavy and tailpipes are many – they have high levels of air toxics. King County and the Vancouver metropolitan area rank among the top 5 percent of the nation for high air toxics levels, like most big cities.

Air toxics monitoring is being conducted in Seattle, Spokane, Longview and Vancouver to collect data on contributing sources and actual concentrations in the air. ‡

## Agencies & Info

### Northwest

#### Clean Air Agency

(Island, Skagit and Whatcom counties)  
360.428.1617  
[www.nwcleanair.org](http://www.nwcleanair.org)

### Puget Sound

#### Clean Air Agency

(King, Kitsap, Pierce and Snohomish counties)  
206.343.8800 or 800.552.3565  
[www.pscleanair.org](http://www.pscleanair.org)

### Olympic Region

#### Clean Air Agency

(Clallam, Grays Harbor, Jefferson, Mason, Pacific and Thurston counties)  
360.586.1044 or 800.422.5623  
[www.orcaa.org](http://www.orcaa.org)

### Southwest Clean Air Agency

(Clark, Cowlitz, Lewis, Skamania and Wahkiakum counties)  
360.574.3058  
[www.swcleanair.org](http://www.swcleanair.org)

### Yakima Regional Clean Air Agency

(Yakima County)  
509.834.2050  
[www.co.yakima.wa.us/cleanair](http://www.co.yakima.wa.us/cleanair)

### Benton Clean Air Authority

(Benton County)  
509.843.3396  
[www.bcaa.net](http://www.bcaa.net)

### Spokane County Air Pollution Control Authority

(Spokane County)  
509.477.4727  
[www.scapca.org](http://www.scapca.org)

### Washington State Department of Ecology

(all other counties)  
360.407.6000  
[www.ecy.wa.gov/programs/air/airhome](http://www.ecy.wa.gov/programs/air/airhome)






## Improving Life, One Breath at a Time

While the scope of work has expanded from the original challenge of curbing tuberculosis 100 years ago, the American Lung Association has continued to influence American health and medicine in every area of lung health. Our relevance today is greater than ever.

In our second century we will expand our research commitment, strengthen our advocacy programs and give the public, patients and caregivers the information and knowledge they need to breathe easier.

Please contact us at (800) 732-9339 or visit [www.alaw.org](http://www.alaw.org) to become involved and support us in our important work ahead.

To make a donation to our organization, you can visit our web site [www.alaw.org/donate](http://www.alaw.org/donate) or mail your donation to the American Lung Association of Washington at 2625 Third Avenue, Seattle, WA 98121.

If we have incorrect contact information or you would like to receive our newsletters electronically, please call (800) 732-9339 and ask for Paul Payton or e-mail [alaw@alaw.org](mailto:alaw@alaw.org) so we can update your record. 

## Calendar of Events

**May** – *Clean Air month*

Asthma Walk (Seattle)	1
Breathe Easy Breakfast (Yakima)	3
World Asthma Day	3

Asthma Walk (Tacoma)	7
Bike to Work Day	20
Asthma Walk (Spokane)	21
World No Tobacco Day	31

### June

Summer Lung Day Conference	18
Big Ride Across America	27 – Aug 13

### July

Climb for Clean Air	7 – 17
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### September

Trek Tri-Island	17-19
Big Ride Pacific Coast	17 – Oct 1

Published April 2005

Editors: Alice Collingwood,  
Paul Payton and Susan Alotrico  
Designer: Richard Wisti

Printed on recycled paper  
Produced using Energy Star equipment



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**State of the Air in Washington 2005**

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